REMARKS

Claims 54-56 have been added. Support for the features recited in those claims can be found, for example, in FIG. 18A.

Claims 48-56 are pending for further examination.

In the Office action, the claims were rejected as follows:

(1) Claim 48 was rejected under 35 U.S.C. § 102(b) as anticipated by U.S. Patent No. 5,158,275 (Sellers et al.).

(2) Claims 49, 52 and 53 were rejected under 35 U.S.C. § 103(a) as unpatentable over U.S. Patent No. 5,372,361 (Isobe et al.) in view of U.S. Patent No. 5,695,173 (Ochoa et al.).

(3) Claims 50-51 was rejected 35 U.S.C. § 103(a) as unpatentable over the Isobe et al. patent in view of the Ochoa et al. and Sellers et al. patents.

Applicant respectfully requests reconsideration.

Claim 48

Independent claim 48 recites a stacker mechanism that includes drive means coupled to a stacker plate, wherein the drive means includes non-circular drive gears. As explained according to an example described in the specification of the pending application:

> If a prime mover is specified of sufficient torque to be adequate at the beginning of the stroke, excessively large forces may be generated at the fully extended position, especially when the removable secure banknote cassette (3) is filled with currency. In order to improve this situation the final gear pair (shown in detail H of FIG. 18) is made from custom parts and includes non-circular drive gear (33) and non-circular driven gear (34). These gears have a profile such that the operating radius varies with angle as the gears rotate. The gears are designed as a complementary pair so the combined operating radii add up to a constant value for any given input angle. The gear profiles are chosen so that the maximum reduction ratio is achieved at the point of highest torque demand.

> Correspondingly, the maximum increase of ratio occurs close to the fully extended position as shown in FIGS. 18A and 18B where excessive thrust could be a problem. In this instance the profiles are chosen so the gears are capable of continuous rotation. Other gear profiles may be employed if the input drive to the mechanism is reversed as part of the complete cycle.

(Specification, page 8, lines 8-21)

The Office action alleges that the Sellers et al. patent discloses such non-circular gears. In particular, the office action points to items 146 and 152 (FIG. 1) as allegedly corresponding to the claimed "non-circular gears." That is incorrect.

Items 146 and 152 are not "gears." Instead, reference numeral 146 identifies a lead screw and reference numeral 152 identifies a drive nut (Sellers et al. patent, col. 7, lines 4-11). Indeed, the Sellers et al. patent identifies other components as being "gears." For example, 56 identifies a pinion gear, 74 identifies a pinion drive gear and 124 identifies another pinion drive gear (*see* FIG. 3; col. 4, line 68; col. 5, lines 31-32; col. 6, line 23). All of those gears are circular.

Clearly, the Sellers et al. patent does not disclose each and every feature of claim 48. At least for the foregoing reasons, the rejection of claim 48 should be withdrawn.

Claim 49

Independent claim 49 recites a stacker mechanism that includes first and second scissor arms and a link arm for driving a stacker plate. Those components are arranged in a particular arrangement. As described in an example in the specification of the pending application:

> In general, stacking mechanisms that include a banknote pusher plate and scissors arrangement for storing bills in a cash box are well known. However, as shown in FIGS. 16, 17 and 18, the present stacking mechanism (29) activates scissor arms (35) by means of a central link arm (36) attached to a crank pin (45).

> The essential kinematic elements of this linkage are shown in FIG. 14 and FIG. 15.
>
> Regarding FIGS. 14 and 15, the crankshaft rotates about a fixed center (A). One end of the scissor mechanism is pivotally mounted about the fixed point (B). The other end of the scissors mechanism is connected to the frame at (F) by a pivot point that has freedom to slide in one direction only. A link arm (C) connects the crankshaft to the scissors at a pivot point (G). In prior art systems it is conventional to make points (G) and (F) coincident. The present implementation, however, obtains a maximum scissor stroke within a small height, wherein the height is primarily constrained by the radius of the crank mechanism. In particular, use of an offset between points (G) and (F) permits some amplification of the scissor stroke, such that a reduced thickness or compact stacking mechanism (29) is obtained. Referring to FIG. 15, when the crankshaft rotates to pull link arm (C) to the left in the drawing, the scissor arms are extended such that the angle (D) between scissors is reduced and the crossover point (E) moves toward a banknote compartment to move a pusher plate to store a banknote.

(Specification, page 7, lines 9-26) As recited in claim 49, the link arm is "connected to the first scissor arm at a pivot point located between the scissor pivot point and a second end of the first scissor arm that is slidably connected to the frame." Applicant refers the Examiner to page 5 of the Amendment dated June 10, 2005 for an annotated example illustration.

The Isobe et al. patent discloses a pusher 30 that has a pushing plate 32 and a base plate 31 (FIG. 4). The pushing plate 32 is moved toward or away from the base plate 31 using a pair of linked members 33, 33' connected to one another by an axle 34. For ease of reference, FIG. 4 of the Isobe et al. patent is reproduced below:

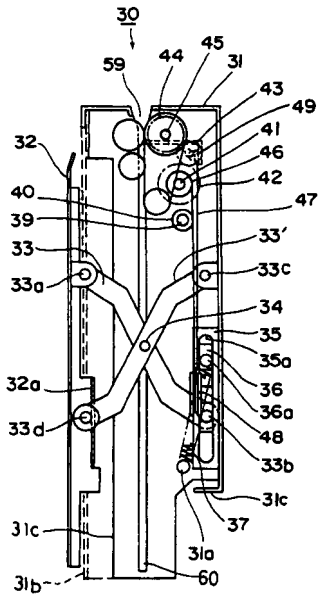

FIG. 4

One end of the link member 33 is connected to the pushing plate 32 by a fixed shaft 33a; the other end of the link member 33 is connected to a shaft 33b that is movable within holes 35a of a bracket 35 that is secured to the base plate 31.

One end of the link member 33' is connected to a shaft 33d that is movable along the pushing plate 32. A fixed shaft 33c connected the other end of the link member 33' to the pushing plate 32.

The Office action alleges that the bracket 35 corresponds to the claimed "link arm." That is clearly incorrect. Claim 49 recites that the link arm is "for driving the stacker plate." In contrast, the bracket 35 is "rigidly secured" to the base plate 31 and does nothing to drive the stacker plate (col. 5, lines 51-52).

Instead, operation of the pusher 30 and movement of the pushing plate 32 is described by the Isobe et al. patent as follows:

As understood from FIG. 4, when the shaft 41 is rotated in the reverse direction to wind up the tensile wire 47 around the winding roller 46, the pulley 48 is pulled by the tensile wire 47 so that the slider 36 and shaft 33b are moved toward the winding roller 46 and therefore the pushing plate 32 stretches from the base plate 31 to the extended position within the compartment 51. Adversely, when the shaft 41 is rotated in the forward direction, the pulley 48, slider 36 and shaft 33b are moved away from the winding roller 46 so that the pushing plate 32 is returned to the retracted position toward the base plate 31 beyond the rest position 60 of the bill 1.

(Col. 6, lines 30-42; *see also* FIG. 6 which is reproduced below)

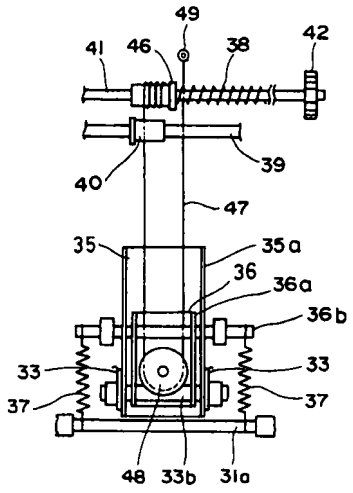

FIG. 6

Thus, rotation of the shaft 41 causes movement of the shaft 33b (which is connected to the slider 36 (col. 5, lines 58-61), which, in turn, is connected to the pulley 48 (col. 5, lines 67-68)). Because the shaft 33b is connected to respective ends of the link members 33, rotation of the shaft 41 results in movement of the link members 33 so as to move the pushing plate 32.

In any event, it is clear from the Isobe et al. patent that the only component connected to the link member 33 for the purpose of causing movement of the link member is the movable shaft 33b. The shaft 33b, however, is connected to an end of the link member 33. Therefore, as acknowledged by the Office action (page 3), the Isobe et al. patent "fails to disclose said link arm being connected at a pivot point located between the scissor pivot point and said second slidably connected end of said [first][1] arm."

Nevertheless, the Office action alleges that it would have been obvious to use the arrangement disclosed in the Ochoa et al. patent. In particular, the office action refers to the hydraulic cylinder 14 (which is connected to a secondary shaft 20, which, in turn, connects the scissor arms 16) and alleges that it would have been obvious to somehow incorporate that arrangement into the Isobe et al. patent. That conclusion is erroneous and represents a complete failure to appreciate the significant differences in the mechanical arrangements of the Ochoa et al. patent and the Isobe et al. patent.

First, the Office action has not even established a *prima facie* case for obviousness because no reason is provided as to why one of ordinary skill would have modified the arrangement of the Isobe et al. patent to incorporate the hydraulic cylinder 14 of the Ochoa et al. patent. The Office action simply alleges that it would have been obvious to do so "for the purpose of vertically adjusting the stacker plate." Yet the Isobe et al. patent itself provides a mechanism to accomplish that very function. Thus, there would have been no reason to complicate the arrangement of the Isobe et al. patent by adding components to accomplish a function the apparatus of the Isobe et al. patent already performs.

Furthermore, claim 49 recites that the "link arm" is "connected to the first scissor arm." In contrast, the hydraulic cylinder 14 of the Ochoa et al. patent is not connected to an arm 16 of either scissors 12, 13. Instead, the hydraulic cylinder 14 is connected to a secondary shaft 20,

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[1] The Office action mischaracterizes the language of claim 49 by referring to the second end of the "second" arm. Claim 49 recites "a link arm for driving the stacker plate, the link arm connected to the first scissor arm at a pivot point located between the scissor pivot point and a second end of the *first* scissor arm that is slidably connected to the frame."

which links the arms 16 of the system (col. 2, lines 50-54; FIG. 2). The secondary shaft 20 links the arms 16 just as the main tubular shaft 15 joins the lower ends of the scissors 12, 13 (col. 2, lines 35-40; FIG. 1). Therefore, even if there were some reason to modify the arrangement of the Isobe et al. patent in view of the Ochoa et al. patent, that would not have rendered the subject matter of claim 49 obvious.

The claimed subject matter recites a very different arrangement that can provide various advantages such as those discussed in the Specification at page 7 (quoted above). That subject matter is new and non-obvious at least for the reasons discussed above. Accordingly, applicant respectfully requests withdrawal of the rejections of claim 49.

Claims 50-53

Claims 50 and 52 depend from claim 49 and should be allowable at least for the same reasons.

Furthermore, claim 50 recites a drive means coupled to the link arm and having non-circular drive gears. As discussed above, the Sellers et al. patent does not disclose that feature. Nor do the other references. Therefore, claim 50 should be allowable for that additional reason as well.

Each of independent claims 51 and 53 recites a link arm for driving a stacker plate, wherein the link arm is connected to the first scissor arm at a specified pivot point. As discussed above, none of the references alone or in combination discloses or renders obvious the subject matter of either of those claims taken as a whole.

Claims 54-56

New claims 54-56 recite additional features that are not disclosed by the cited references. Accordingly, those claims should be patentable as well.

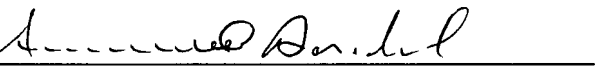
Conclusion

It is believed that all of the pending claims have been addressed. However, the absence of a reply to a specific rejection, issue or comment does not signify agreement with or concession of that rejection, issue or comment. In addition, because the arguments made above may not be exhaustive, there may be reasons for patentability of any or all pending claims (or other claims) that have not been expressed. Finally, nothing in this paper should be construed as an intent to concede any issue with regard to any claim, except as specifically stated in this paper, and the amendment of any claim does not necessarily signify concession of unpatentability of the claim prior to its amendment.

Payment of the Petition for Extension of Time fee (three months) is also being submitted. Please apply any other charges or credits to deposit account 06-1050.

Respectfully submitted,

Date: 9/20/07



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